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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,787	04/02/2004	Takashi Iwamoto	26082	9932

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EXAMINER	
AZEMAR, GUERSSY	
ART UNIT	PAPER NUMBER
2613	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/815,787	IWAMOTO ET AL.	
	Examiner	Art Unit	
	Guerssy Azemar	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 April 2004* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/9/05;4/28/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shigeta et al. (6,616,352) in view of Hogan (3,790,277).

(1) With respect to claim 1:

Shigeta et al. teaches an optical wireless transmission apparatus (70 in figure 5) comprising: a light emitting section which emits a light signal toward a target apparatus (26 in figure 5); a light receiving section which receives the light signal emitted from the target apparatus (35 in figure 5); and a pilot light emitting section which emits a pilot light to the target apparatus (20 in figure 5), the pilot light emitted from the target apparatus being received by the light receiving section to detect an emission direction of the pilot light and to emit the light signal in the detected emission direction (50 in figure 6, which discloses the receiving section of the other side of the transmission, figure 5 has the same configuration see lines 4,5 column 6).

However, Shigeta et al. does not teach the pilot light emitting section emits the pilot light in a wavelength region of 930 nm to 960 nm, and the light receiving section comprises a light-receiving device having a light receiving sensitivity only to the wavelength region of 930 nm to 960 nm.

Hogan teaches the pilot light emitting section emits the pilot light in a wavelength region of 930 nm to 960 nm (figure 9 teaches a device for tracking a direction of a transmitting device, with a pilot light transmitting wavelength of 935 nanometers; see column 5, lines 3-5), and the light receiving section comprises a light-receiving device having a light receiving sensitivity only to the wavelength region of 930 nm to 960 nm (column 5, lines 15, 16).

Therefore it would have be obvious to one of ordinary skill in the art at the time of the invention to use a pilot light emitted at 935 nm as taught by Hogan in the apparatus taught by Shigeta et al. in order to avoid interference with a data signal, which normally operates in the order of the thousands nanometer and still operates within the infrared spectrum and filters out the visible light (column 5, line 17).

(2) With respect to claim 3:

Shigeta et al. teaches an optical wireless transmission apparatus comprising: a transmission section, which emits a light signal (26 in figure 5), modulated by a data signal toward a target apparatus (22 in figure 5); a light receiving section which receives the light signal emitted from the target apparatus (35 in figure 5) and which demodulates the light signal into the data signal (54a-d in figure 6, which is an embodiment of the same invention); and a pilot light emitting section which emits a pilot light to the target apparatus (70 in figure 4), the pilot light emitted from the target apparatus being received by the light receiving section to detect an emission direction of the pilot light and to emit the light signal in the detected emission direction (71 in figure 4).

However, Shigeta et al. does not teach the pilot light emitting section emits the pilot light in a wavelength region of 930 nm to 960 nm, and the light receiving section comprises a filter, which passes only a light in the wavelength region of 930 nm to 960 nm.

Hogan teaches the pilot light emitting section emits the pilot light in a wavelength region of 930 nm to 960 nm (figure 9 teaches a device for tracking a direction of a transmitting device, with a pilot light transmitting wavelength of 935 nanometers; see column 5, lines 3-5), and the light receiving section comprises a filter, which passes only a light in the wavelength region of 930 nm to 960 nm (column 5, lines 15, 16).

Therefore it would have be obvious to one of ordinary skill in the art at the time of the invention to use a pilot light emitted at 935 nm as taught by Hogan in the apparatus taught by Shigeta et al. in order to avoid interference with a data signal, which normally operates in the order of the thousands nanometer and still operates within the infrared spectrum and filters out the visible light (column 5, line 17).

(3) With respect to claim 4:

Shigeta et al. teaches an optical wireless transmission apparatus comprising: a transmission section, which emits a light signal (26 in figure 5), modulated by a data signal toward a target apparatus (22 in figure 5); a light receiving section which receives the light signal emitted from the target apparatus (35 in figure 5) and which demodulates the light signal into the data signal (54a-d in figure 6, which is an embodiment of the same invention); and a pilot light emitting section which emits a pilot light to the target apparatus (70 in figure 4), the pilot light emitted from the target

apparatus being received by the light receiving section to detect an emission direction of the pilot light and to emit the light signal in the detected emission direction (71 in figure 4).

However, Shigeta et al. does not teach the pilot light emitting section emits the pilot light in a wavelength region of 930 nm to 960 nm, and a light-receiving section comprising: a filter, which passes only a light having a wavelength of 930 nm or more; and a light receiving device having a light receiving sensitivity only to a wavelength of 960 of less.

Hogan teaches teach the pilot light emitting section emits the pilot light in a wavelength region of 930 nm to 960 nm (figure 9 teaches a device for tracking a direction of a transmitting device, with a pilot light transmitting wavelength of 935 nanometers; see column 5, lines 3-5), and a light-receiving section comprising: a filter, which passes only a light having a wavelength of 930 nm or more (140 in figure 9, column 5, line 16, the reference teaches a filter that accepts 900 nm wavelength or more);

Therefore it would have be obvious to one of ordinary skill in the art at the time of the invention to use a pilot light emitted at 935 nm as taught by Hogan in the apparatus taught by Shigeta et al. in order to avoid interference with a data signal, which normally operates in the order of the thousands nanometer and still operates within the infrared spectrum and filters out the visible light (column 5, line 17).

Although neither Shigeta et al. nor Hogan teach a light receiving device having a light receiving sensitivity only to a wavelength of 960 of less, it would have been

obvious to one of ordinary skill in the art at the time of the invention to implement a light receiving section capable of passing light of 960 nm or less in order to restrict the pass band to avoid interference with visible light and the data signal.

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shigeta et al. (6,616,352) and Hogan (3,790,277) as applied to claim 1 above, and further in view of Yoshida et al. (6,870,871).

Shigeta et al. and Hogan teach all of the subject matter as described above, except for the light receiving device comprises: a light receiving layer formed of GaInAsP having a band gap energy corresponding to 960 nm on an InP substrate; and a light absorbing layer formed of GaInAsP having a band gap energy corresponding to 930 nm on the light receiving layer.

Yoshida et al. teaches a light receiving layer formed of GaInAsP having a band gap energy corresponding to 1650 nm on an InP substrate; and a light absorbing layer formed of GaInAsP having a band gap energy corresponding to 1650 nm on the light receiving layer (column 19, lines 15, 17, 37,42).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the light-receiving element taught by Yoshida et al. to use it in the receiver taught by Shigeta et al. in order to receive signals in the area of 930-to 960 nm wavelengths, which are free of certain noises.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guerssy Azemar whose telephone number is (571) 270-1076. The examiner can normally be reached on Mon-Fri (every other Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Guerssy Azemar

12/18/06

KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER